

THE USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN  
TEACHING BIOLOGY

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**Annotation:** The desire for self-education is a distinctive feature of a modern teacher. A modern teacher today becomes the organizer of the process of obtaining knowledge using modern information technologies, contributing to self-education and self-realization of students. The use of computer technology in biology lessons is a significant update of the content of biological education, and therefore the teacher must be competent in the field of computer technology.

**Keywords:** information and communication technologies, traditional approach, intensification, methodological system, didactic development, creativity.

Information and communication technologies (ICT) are playing an increasingly important role in our lives, especially in education. The development of society today dictates the need to use new information and communication technologies in all spheres of life. A modern teacher should use information and communication technologies in his activities, since the main task of universities is to educate a new generation of literate, thinking, able to independently acquire knowledge of citizens. The use of ICT in the educational process is aimed at intensifying the learning process, implementing the ideas of developing learning, improving the forms and methods of organizing the educational process, ensuring the transition from mechanical assimilation of knowledge to mastering the skills to acquire new knowledge independently.

Traditional ways of transmitting information are giving way to the use of information and communication technologies. In these conditions, the teacher needs to navigate a wide range of innovative technologies, ideas, and directions.

The training of ICT teachers allows you to significantly expand the possibilities of their use, reduce the time for preparing for classes, and improve their quality.

Biology is an academic subject in the process of studying which ICT can be widely used. This makes it possible to increase the effectiveness of the lesson, make it more visual and interesting, you can simulate many complex biological processes and patterns, help in conducting knowledge control, organizing independent work. The widespread introduction of ICT will lead to a revision of many traditional approaches in the construction of a modern biology lesson.

The information society creates new conditions for the development of education, the use of ICT opens up great opportunities for the teacher, setting him new tasks. The main thing here is the creation of a methodological system, didactic developments that would allow each teacher to build their activities using modern ICT. The use of ICT requires a biologist teacher to change the components of his professional activity, his position becomes decisive here. A modern teacher today becomes the organizer of the process of obtaining knowledge using modern information technologies, contributing to self-education and self-realization of students. It was found that when using electronic learning tools, students' memorability increases by 25-60%, and the amount of information assimilated increases by about 50%.

The modern information society sets before the teacher the task of preparing students capable of:

- navigate changing life situations, independently acquiring the necessary knowledge, applying them in practice to solve a variety of emerging problems, so that throughout life you can find your place in it;
- think critically independently, see emerging problems and look for ways to solve them rationally using modern technologies;

- be clearly aware of where and how the knowledge they acquire can be applied; be able to generate new ideas, think creatively;
- competently work with information (collect the facts necessary to solve a certain problem, analyze them, make the necessary generalizations, comparisons with similar or alternative solutions, establish statistical and logical patterns, draw reasoned conclusions, apply the experience gained to identify and solve new problems);
- be sociable, contact in various social groups, be able to work together in various fields, in various situations, preventing or skillfully getting out of any conflict situations;
- independently work on the development of their own morality, intelligence, cultural level.

The desire for self-education is a distinctive feature of a modern teacher. The use of computer technology in biology lessons is a significant update of the content of biological education, and therefore the teacher must be competent in the field of computer technology:

- to know the didactic capabilities of the computer;
- own methods of using a computer in the organization of training;
- be able to use a computer to organize control and self-control of students' mastering of the material they have passed;
- be able to optimally combine computer and traditional learning technologies;
- to use new information technologies for the organization of creative activity of students, etc.

The use of information technologies:

intensifies the transfer of information, significantly expands the illustrative material, creates problematic situations, strengthens the emotional background of learning, forms the educational motivation of students, differentiates and individualizes the educational process;

allows the teacher to significantly expand the amount of information studied and diversify the forms and ways of its perception by students;

the material offered to students in this form is remembered much better than in traditional lessons, and ultimately leads to a higher level of assimilation of the subject;

promotes the development of students' creativity through the creation of educational information products;

promotes psychological growth of personality, development of self-education and self-education skills. The use of information and communication technologies in the learning process increases the activity of the student's work, transfers him from the state of a passive consumer of information to the state of the author of his education. The use of ICT in biology classes is very effective, students are enlivened, actively involved in the learning process. The effectiveness of training increases, the accounting and evaluation of students' knowledge improves. Students show an interest in knowledge. Work with multimedia programs has shown that constructive, algorithmic thinking of students develops indirectly. Also, the skills and abilities of research activity, orientation in information and its subsequent processing are formed.

Thus, it can be concluded that the use of ICT technologies:

- intensifies the transfer of information, significantly expands the illustrative material, creates problematic situations, strengthens the emotional background of learning, forms the educational motivation of trainees, differentiates and individualizes the learning process;

- allows the teacher to significantly expand the amount of information studied and to diversify the forms and ways of its perception by students;

- creates conditions for the use of the most effective methods and forms of teaching, the implementation of the basic principles of the holistic pedagogical process and the rules of teaching (from simple to complex, from close to distant, from concrete to abstract); saving educational time, energy of the teacher and students by compacting educational information and accelerating the pace;

· the material offered to students in this form is remembered much better than in traditional lessons and ultimately leads to a higher level of assimilation of the subject.

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